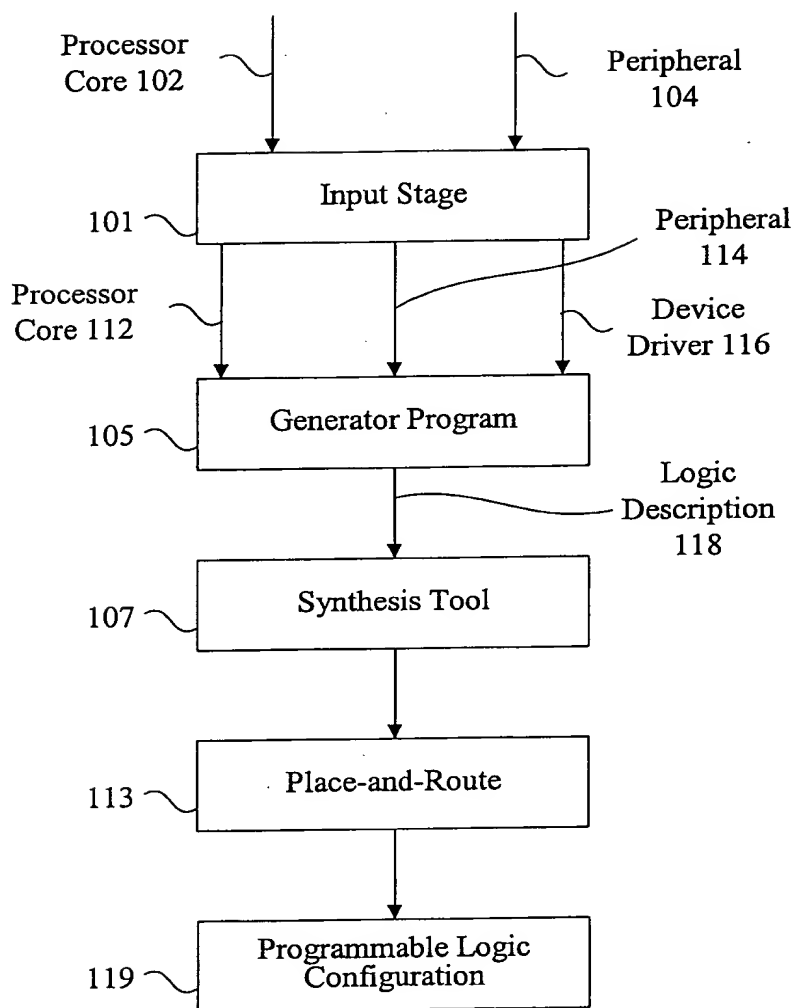
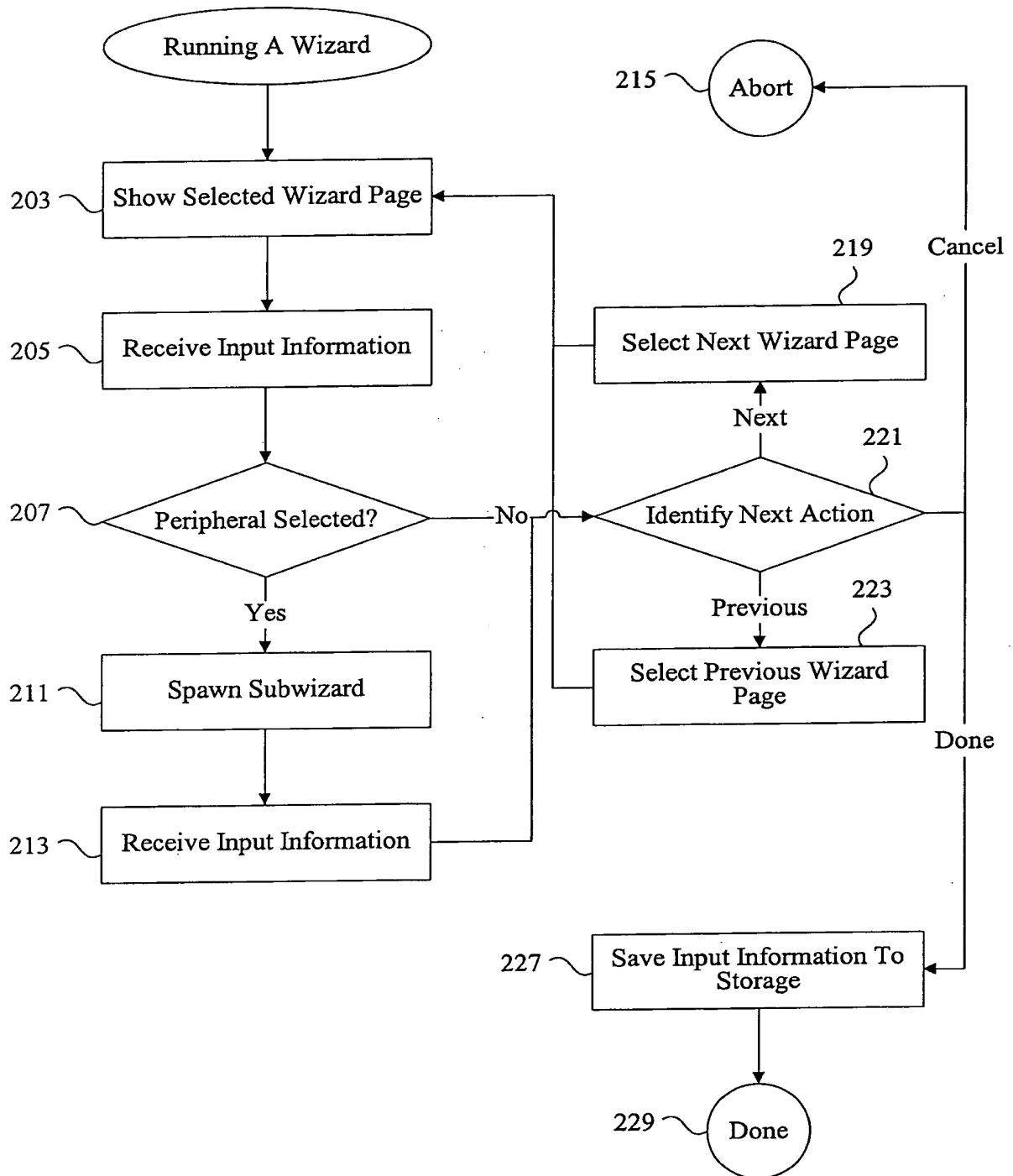


Figure 1



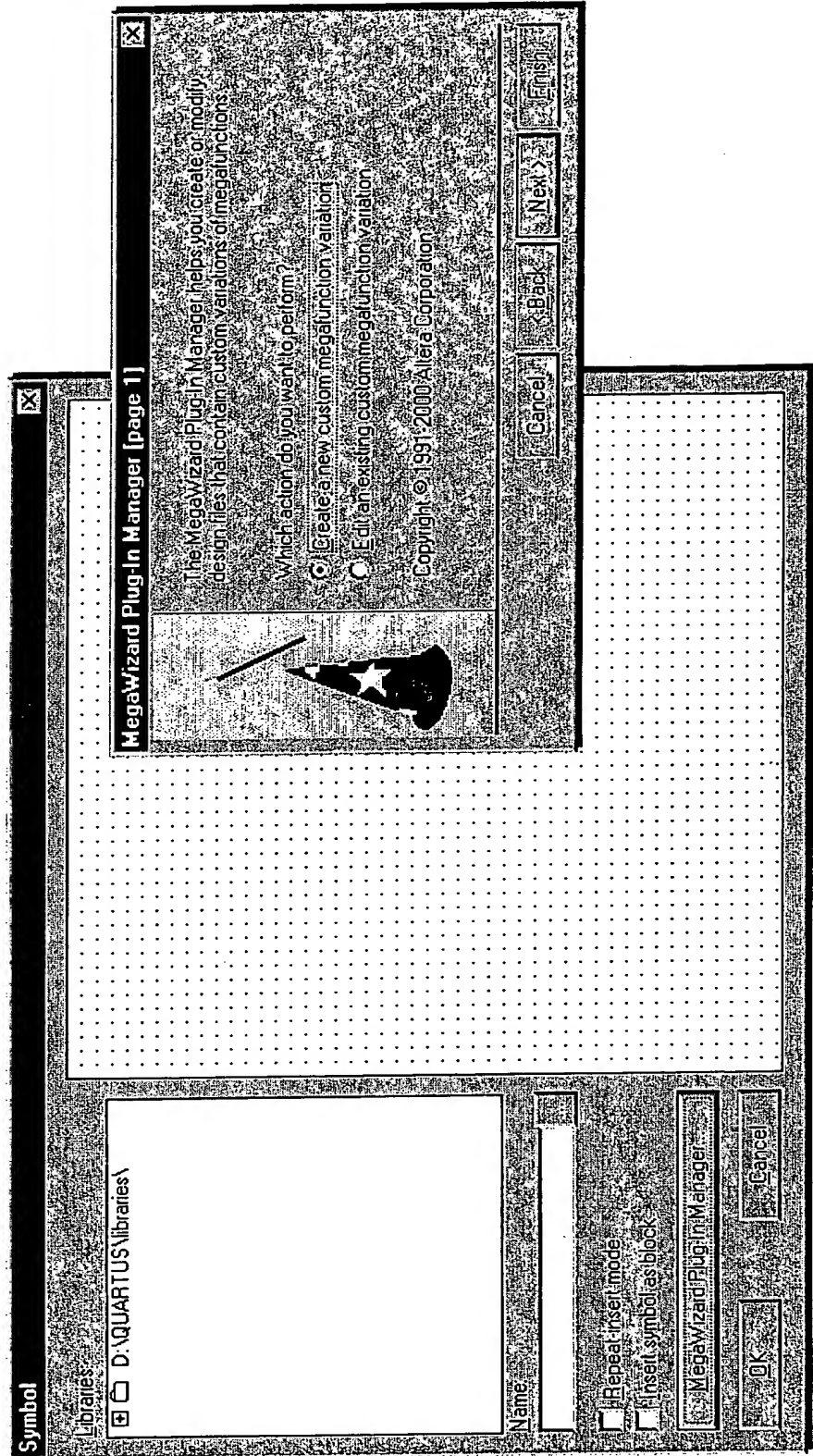
09880106-061201

Figure 2



09880106-061201

FIGURE 3A



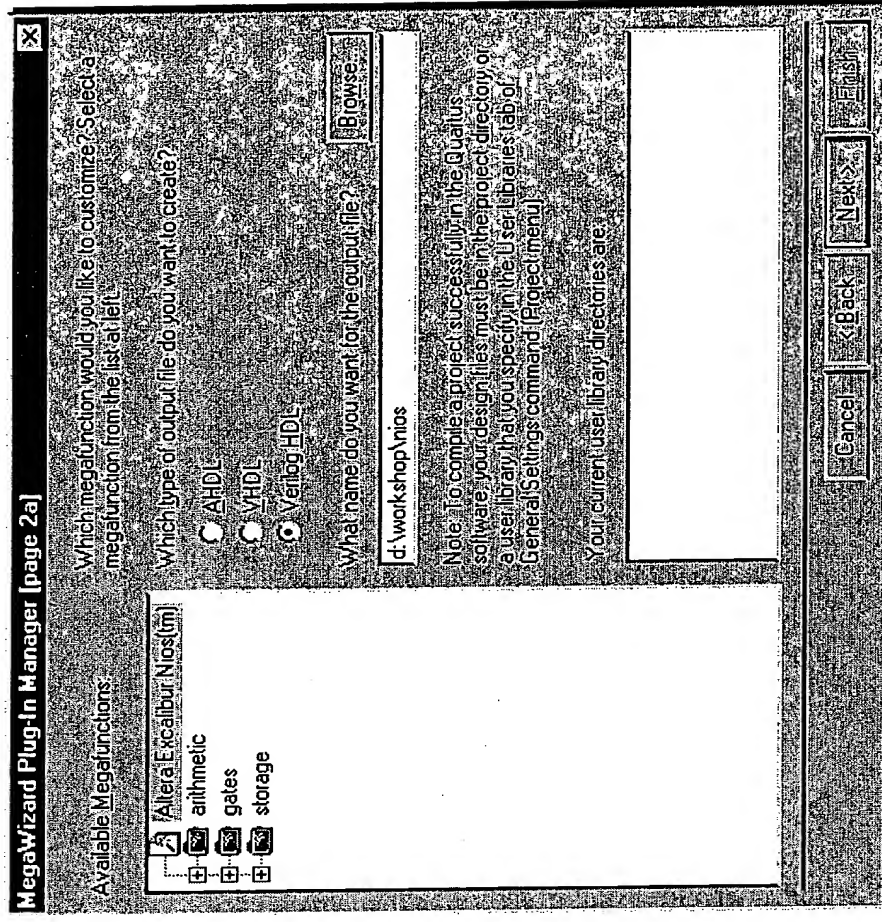


FIGURE 3B

FIGURE 3C

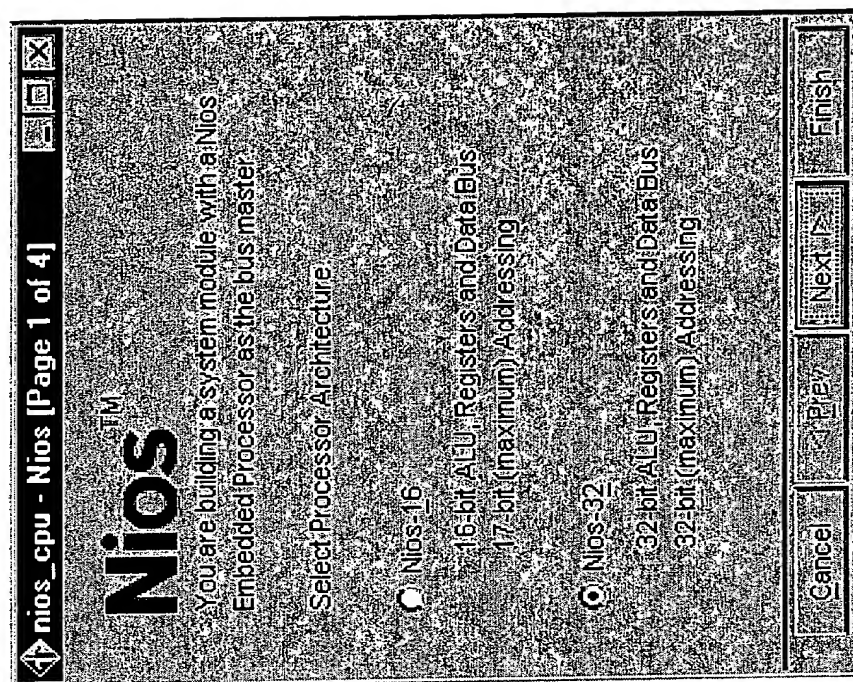


FIGURE 3D

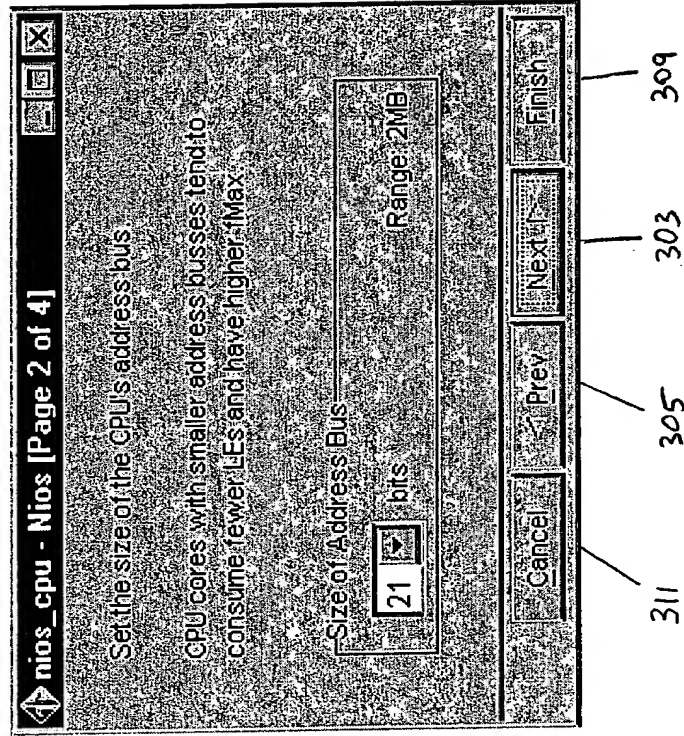


FIGURE 3E

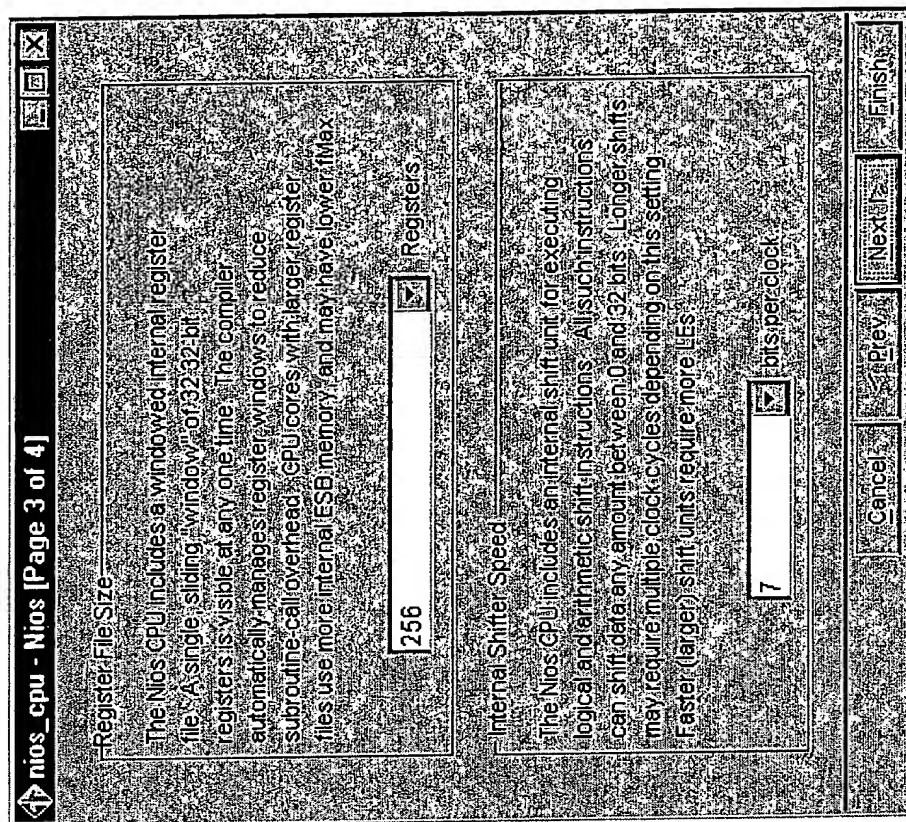


FIGURE 3F

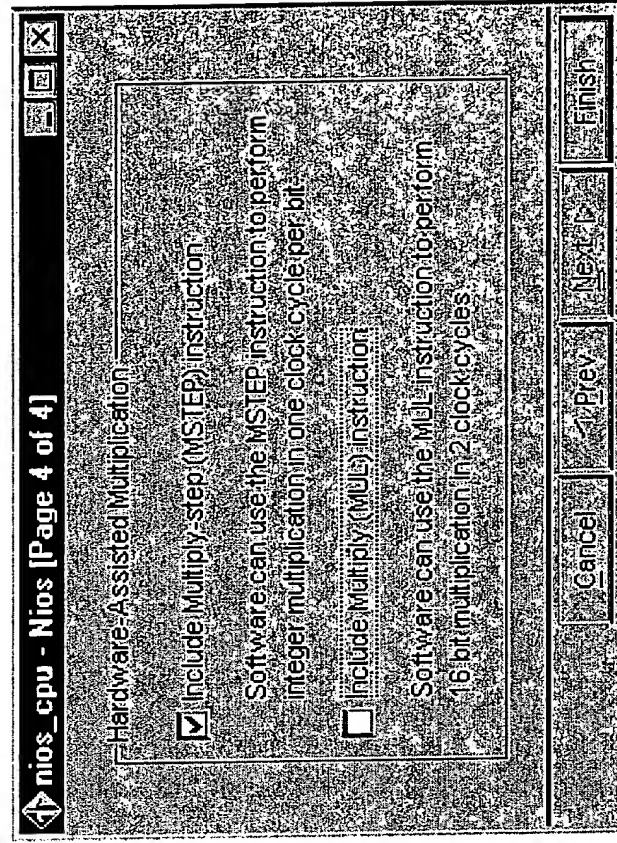


FIGURE 3H

uart1 - UART [Page 1 of 1]

Baud Rate

Input Clock Frequency (Hz) 33333000

Baud Rate (bps) 115200

Baud Rate Error: 0.46839058%

☐ Baud rate can be changed by software
(divisor register is writeable)

Parity N

Data Bits 8

Stop Bits 1

Cancel Next Is Finish

FIGURE 3I

nios - Nios System Builder [Page 3 of 6]

System CPU: 32-bit Altera Nios(TM) CPU with Address Range 0x0000000-0x1FFFFFF

Edit CPU...

System Clock (MHz): 63.333

System Peripherals:

Add Peripheral

Edit

Rename

Delete

Use	Name	Type	Base Addr	End Addr	IRQ
<input checked="" type="checkbox"/>	Uart1	UART (RS-232 serial port)	0x400	0x00041F	26

Double-click on a peripheral name to edit. Select a cell to view errors / edit contents.

CancelPrevNextGenerate

FIGURE 3J

nios - Nios System Builder [Page 3 of 6]

System CPU: 32-bit Altera Nios (TM) CPU with Address Range [0x000000-0x1FFFFFFF] **Edit CPU**

System Clock (MHz): **33.333**

System Peripherals:

Add Peripheral **Edit** **Rename** **Delete**

Use	Name	Type	Base Addr	End Addr	IRQ
<input checked="" type="checkbox"/>	uart1	UART (RS-232 serial port)	0x400	0x00041F	26
<input checked="" type="checkbox"/>	timer1	Interval Timer	0x440	0x00045F	25

timer1 has no associated edit program. Select a cell to view errors / edit contents

OK Cancel Next Prev Generate

FIGURE 3K

button_pio - PIO [Page 1 of 2]

How many bits of PIO would you like?

PIO width must be between 1 and 32

Type of pins

- ☐ Tri-state (bidirectional) pins
- ☒ Input pins only
- ☐ Output pins only
- ☐ Both input pins and output pins

Cancel Apply Next > Finish

FIGURE 3L

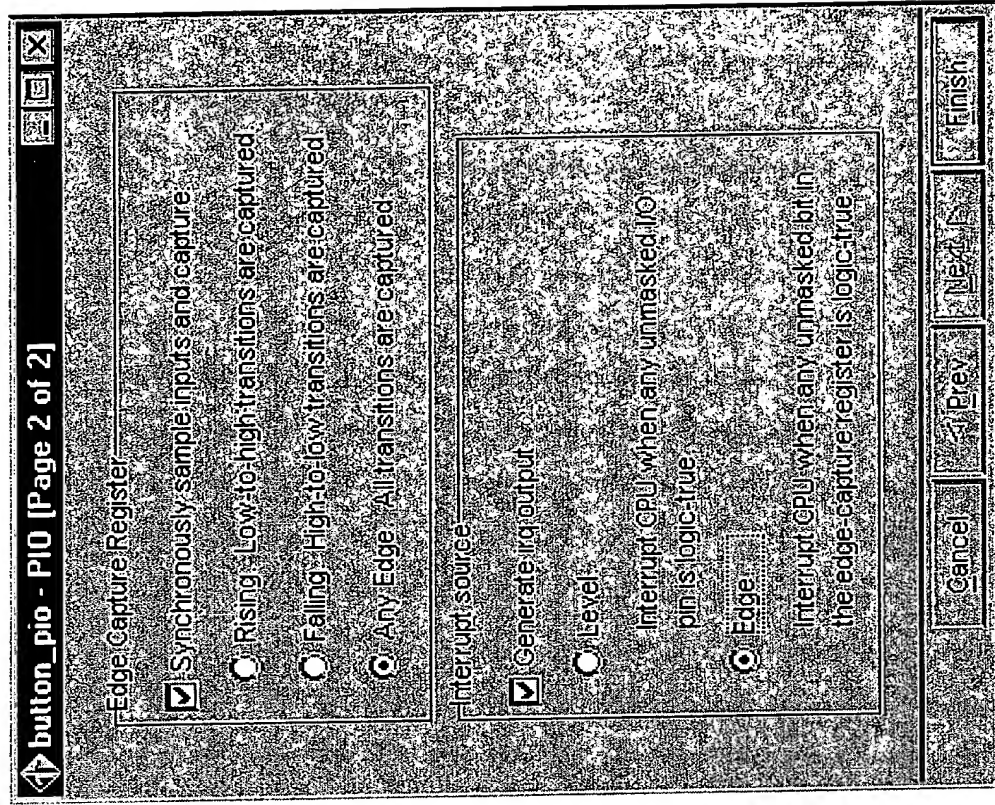


FIGURE 3M

nios - Nios System Builder [Page 3 of 6]

System CPU: 32-bit Altera Nios(TM) CPU with Address Range (0x00000000-0x1FFFFFFF) Edit CPU...

System Clock (MHz): 33.333

System Peripherals:

Add Peripheral... Edit... Rename Delete

Use	Name	Type	Base Addr.	End Addr.	IRQ
<input checked="" type="checkbox"/>	uart1	UART (RS-232 serial port)	0x400	0x00041F	26
<input checked="" type="checkbox"/>	timer1	Interval Timer	0x440	0x00045F	25
<input checked="" type="checkbox"/>	button_pio	PIO (Parallel I/O)	0x470	0x00047F	27

Double-click on a peripheral name to edit. Select a cell to view errors/edit contents.

Cancel Prev Next Generate

V1.1 build 135

FIGURE 3N

boot_rom - Nios Memory [Page 1 of 1]

Memory Type

☐ Writable Memory (RAM)

☒ Read-Only Memory (ROM)

Data Width

32 bits

Memory Size

1K bytes

Contents

☐ Blank

☒ GERMS Monitor (C1K) (ROM only)

☐ User File

Browse

Cancel Next Finish

FIGURE 30

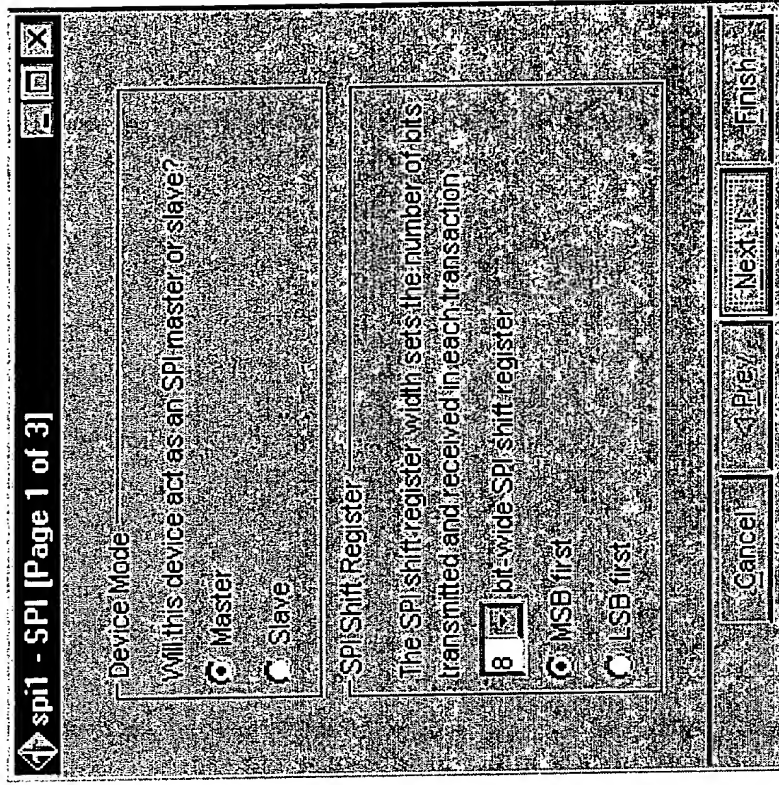


FIGURE 3P

sp1 - SPI [Page 2 of 3]

SPI Clock (SCLK) Rate

10.0 MHz ☐ target clock frequency

Actual Rate: 33.333 MHz / 4 = 8.33325 MHz

Error: 20.0 %

Number of SPI Slaves

This master will produce one SS_n (select) output for each attached slave

1 ☐ Slave

SS_n Delay

SS_n

SCLK

The SPI peripheral has a built-in delay of 60.0006 ns (delay granularity = 1/2 period of SCLK)

☐ Specify delay

10.0 ns ☐

Actual Delay: 60.0006 ns * 1 = 60.0006 ns

Error: 0 %

Cancel Previous Next Finish

FIGURE 3Q

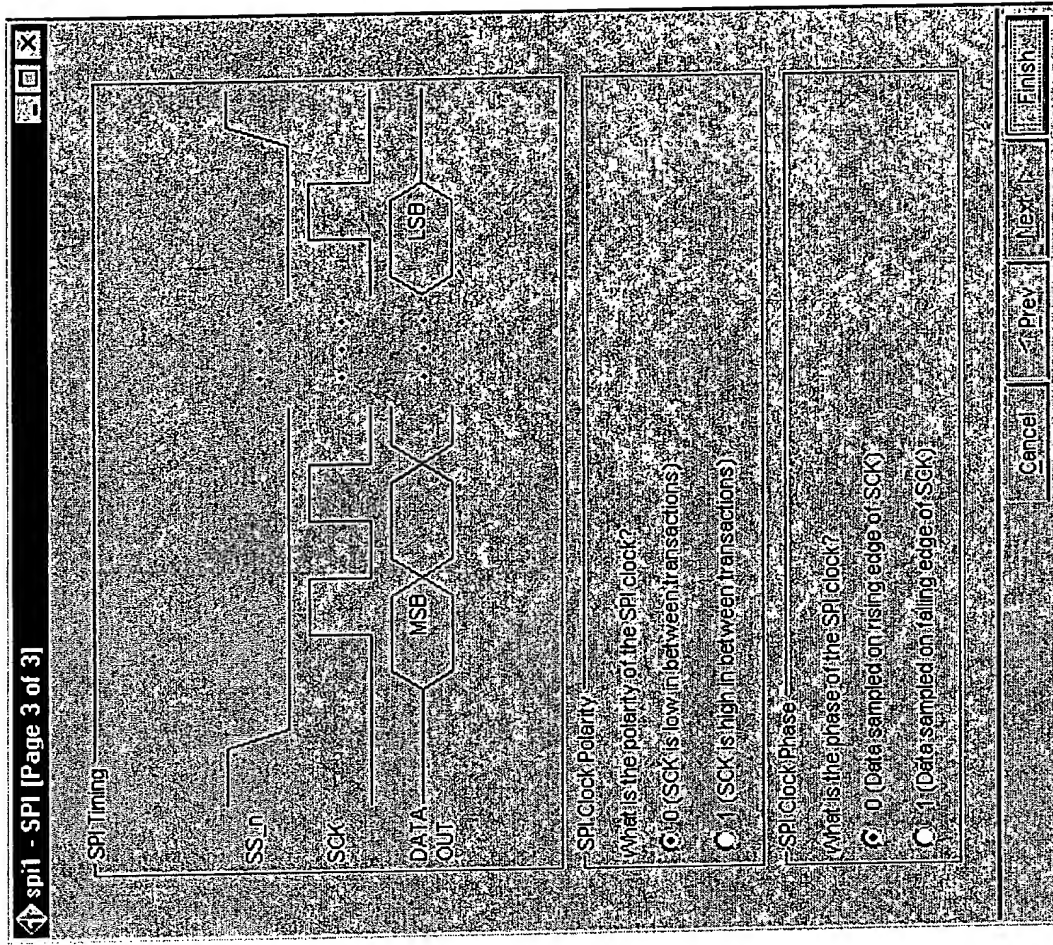


FIGURE 3R

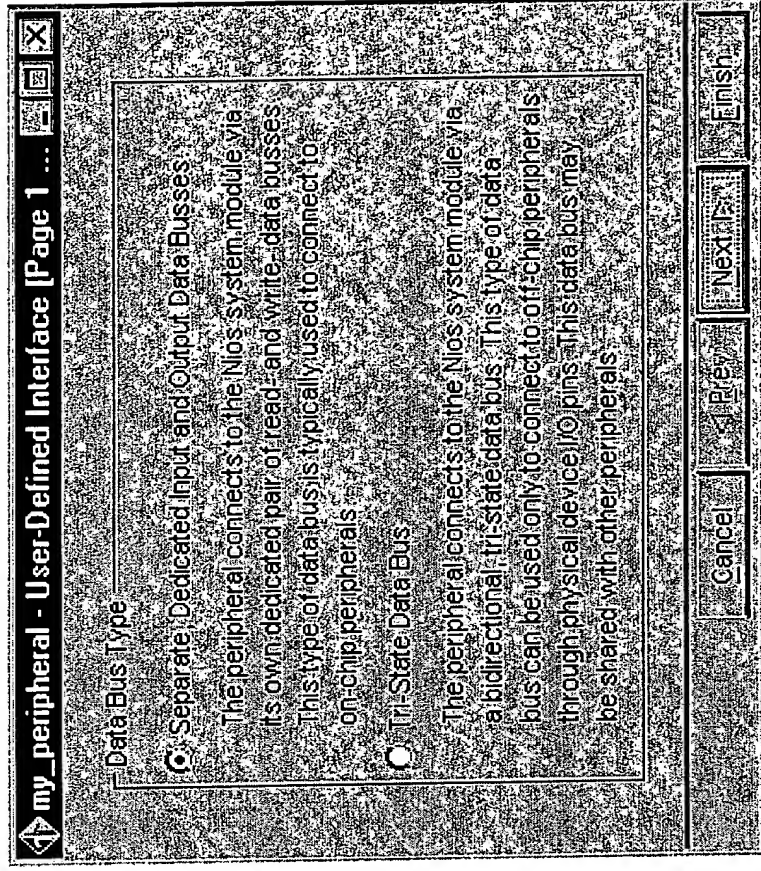


FIGURE 3S

The image shows a screenshot of a software dialog box titled "my_peripheral - User-Defined Interface [...]". The dialog box has a standard Windows-style title bar with minimize, maximize, and close buttons. The main area contains three sections:

- Width of Data Bus:** A label followed by a text input field containing the number "32". Below the input field is the text "Specify width between 1 and 32 bits".
- Width of Address Bus:** A label followed by a text input field containing the number "5". Below the input field is the text "Specify width between 1 and 21 bits".
- Interrupt Request:** A label followed by a checked checkbox and the text "Peripheral generates interrupt request signal".

At the bottom of the dialog box, there are three buttons: "Cancel", "Prev", and "Next", followed by a "Finish" button.

FIGURE 3T

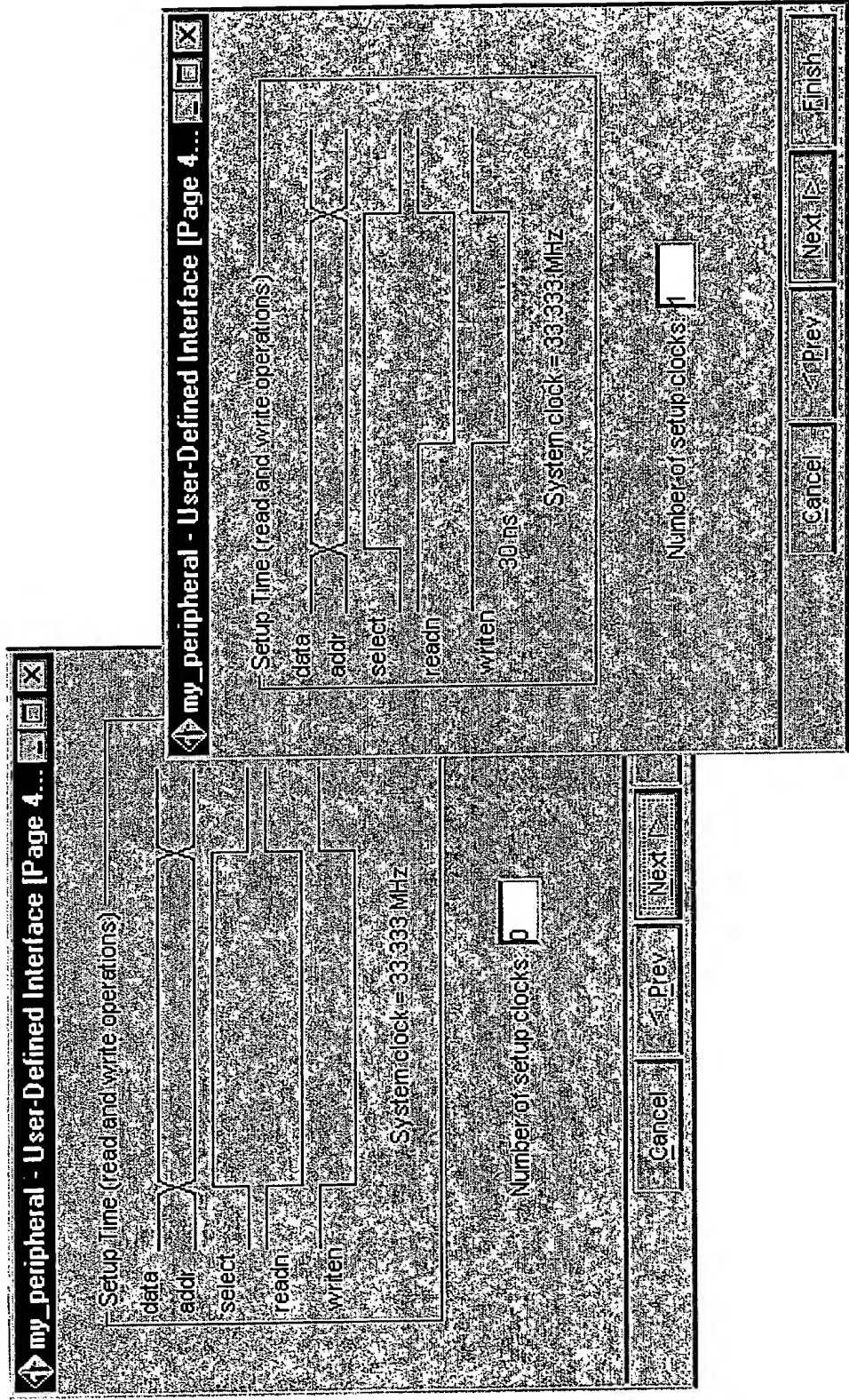


FIGURE 3U

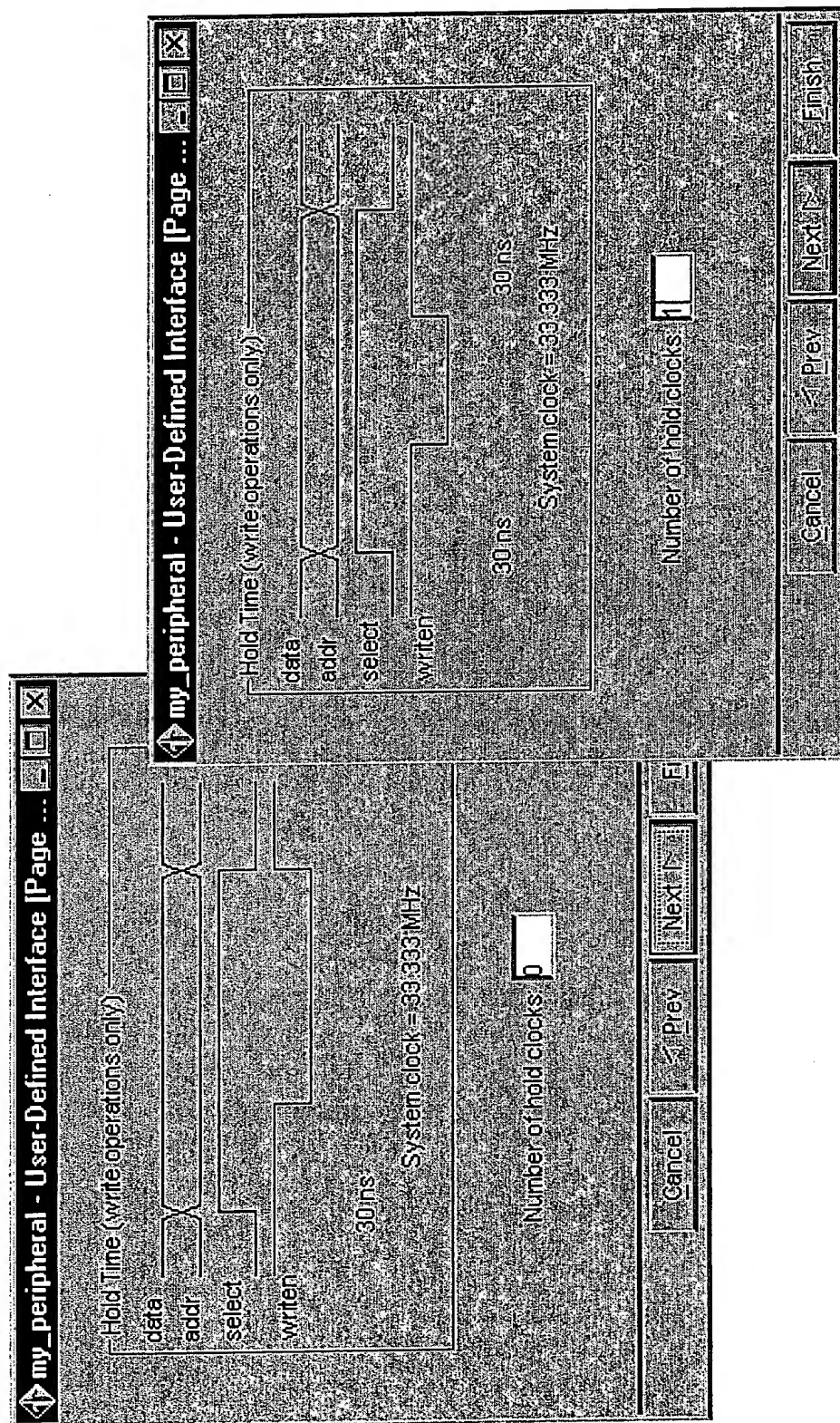


Figure 3V

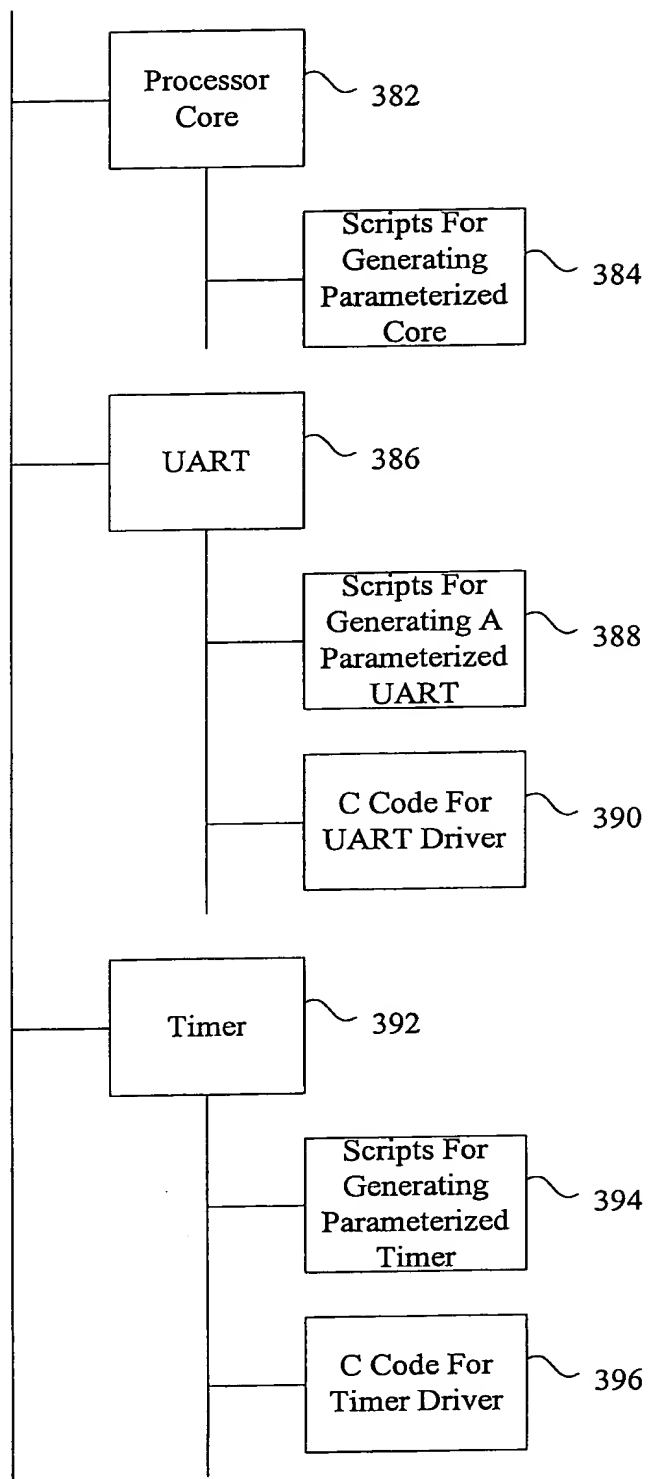


Figure 4

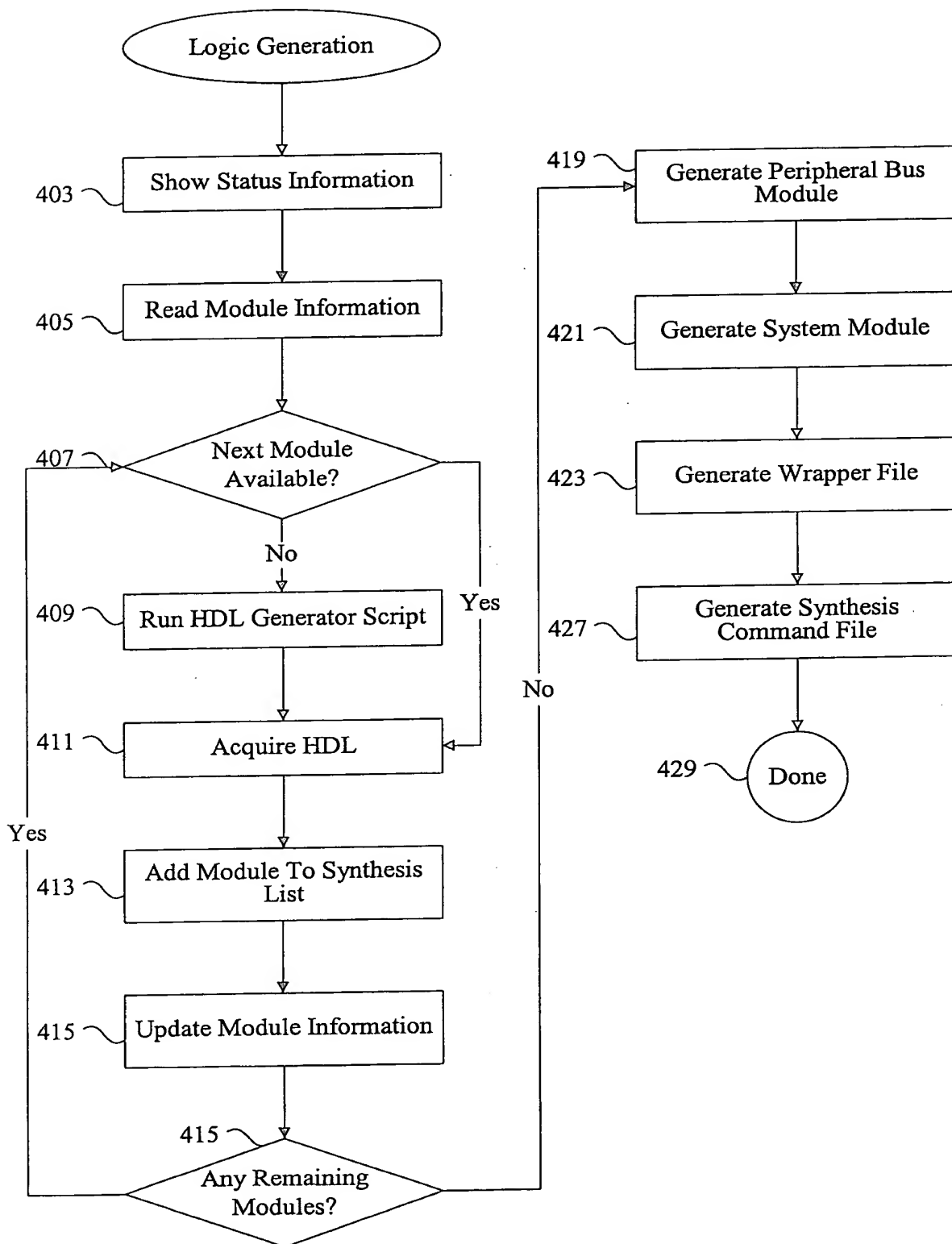


Figure 5

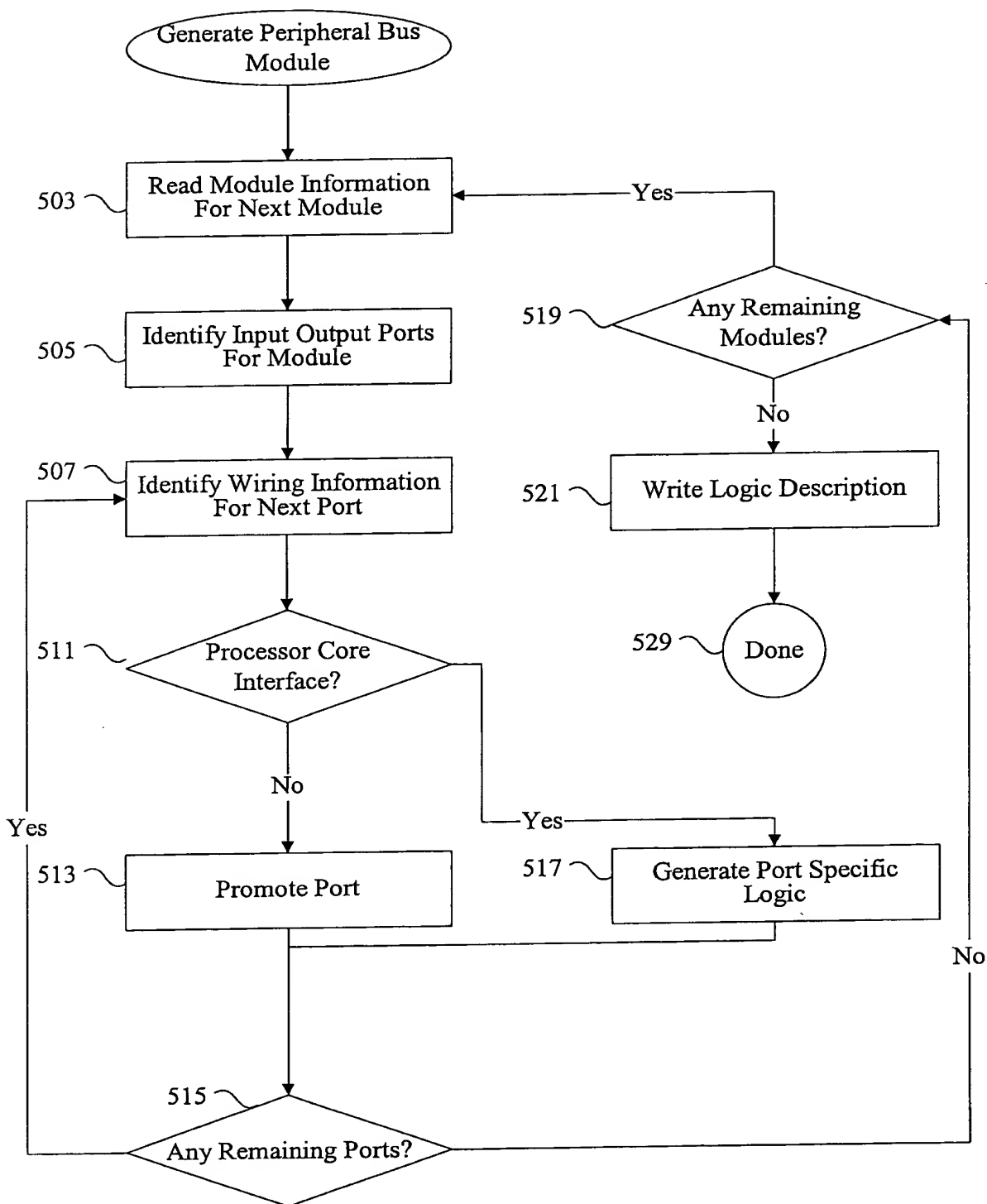


Figure 6A

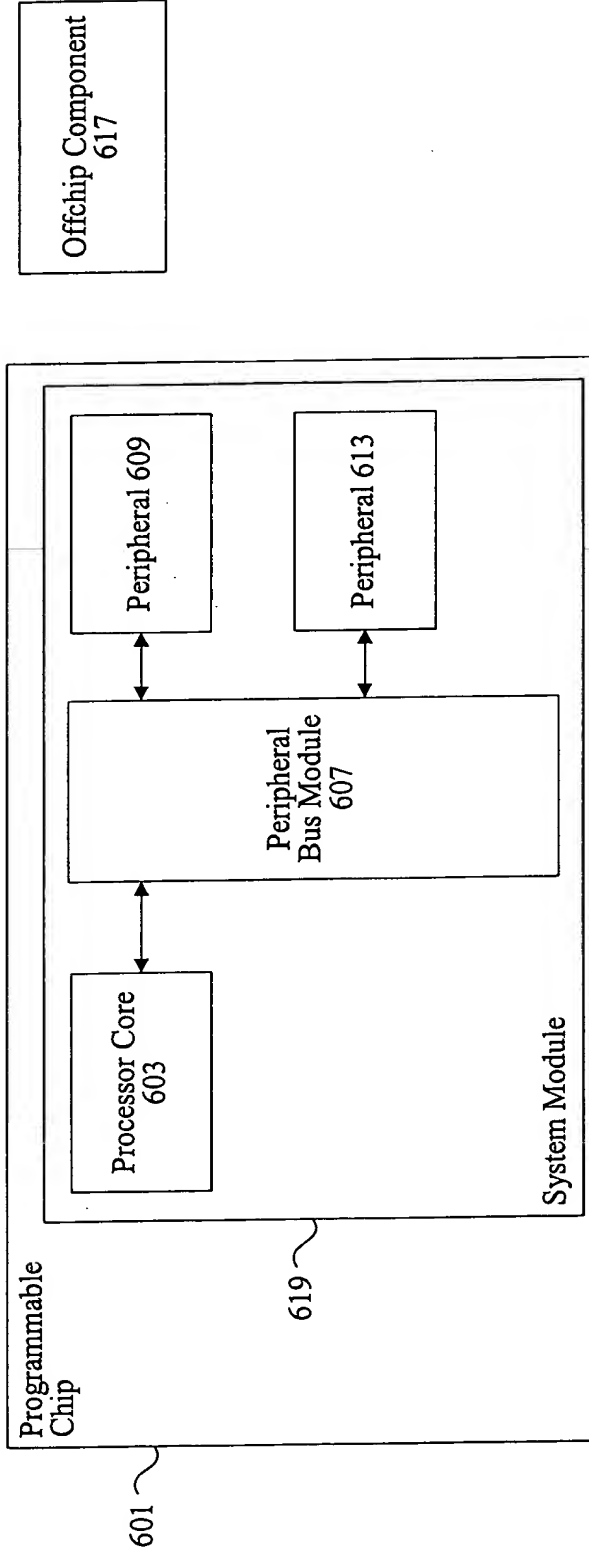


Figure 6B

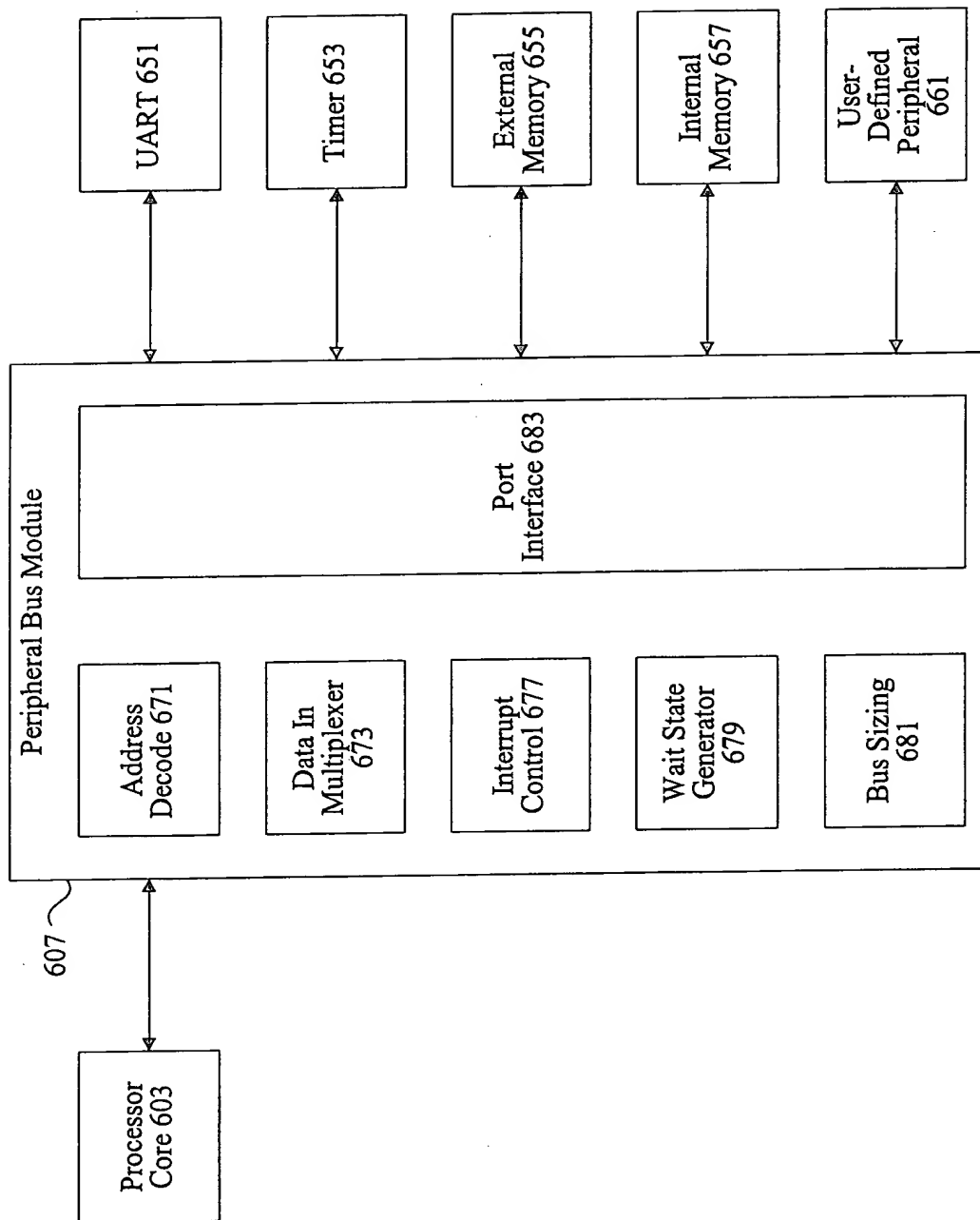


FIGURE 7

701

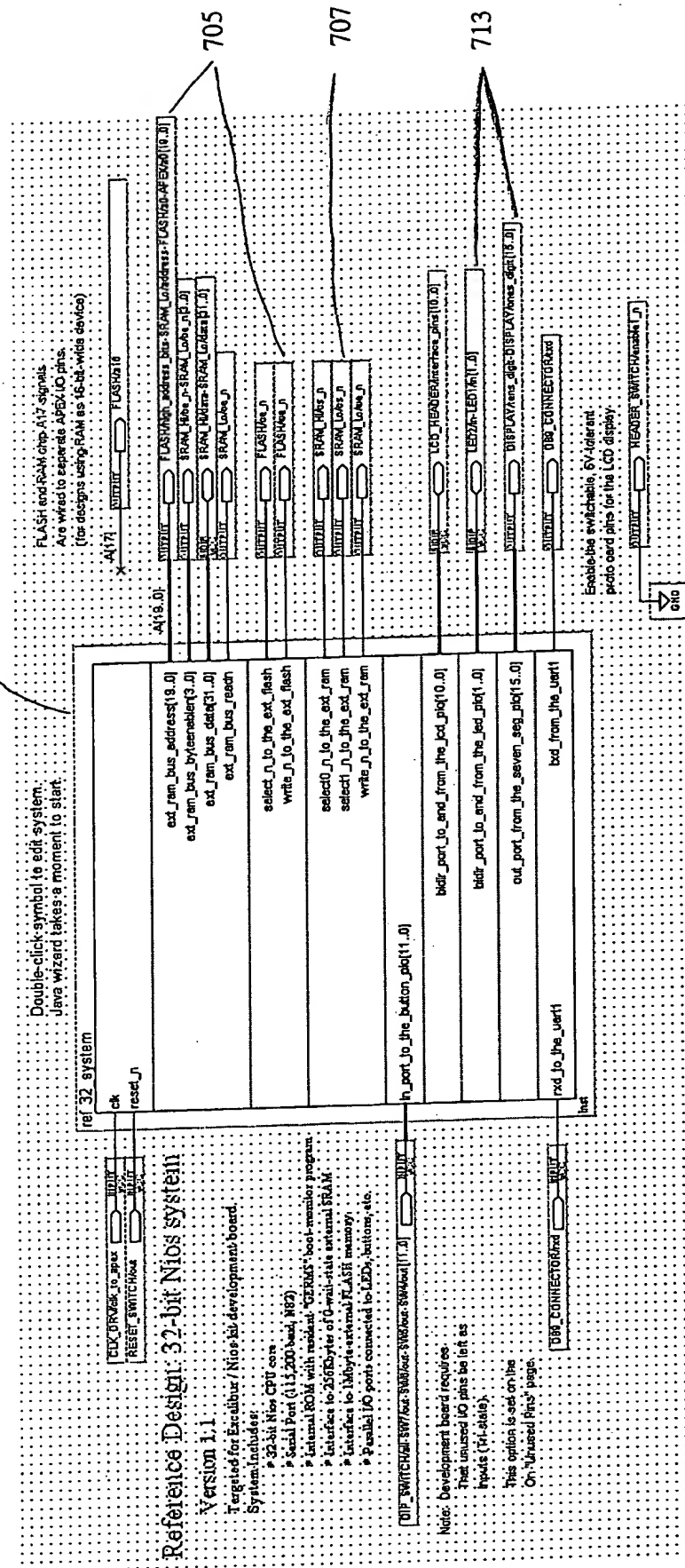


Figure 8

